This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (previously presented): A dialysis solution comprising:

a first acidic solution including a dextrose concentrate; and

a second acidic solution including a buffer concentrate wherein the first acidic solution and the second acidic solution are admixed to form a ready-to-use dialysis solution, and wherein the second acidic solution has a pH of less than 5.5.

Claim 2 (original): The dialysis solution of Claim 1 wherein the dextrose concentrate includes dextrose, calcium chloride, and magnesium chloride.

Claim 3 (original): The dialysis solution of Claim 1 wherein the buffer concentrate includes a lactate-based concentrate.

Claim 4 (canceled)

Claim 5 (original): The dialysis solution of Claim 1 wherein the ready-to-use dialysis solution includes about 1.5% to about 4.25% of dextrose.

Claim 6 (original): The dialysis solution of Claim 1 wherein the ready-to-use dialysis solution includes sodium and about 2.5 mEq/L to about 3.5 mEq/L of calcium.

Claim 7 (original): The dialysis solution of Claim 1 wherein the ready-to-use dialysis solution includes about 40 mEq/L of lactate.

Claim 8 (previously presented): A two part peritoneal dialysis solution comprising:

a first part including an acidic concentrate that includes dextrose; and

a second part including a lactate-based buffer concentrate having a pH of less than 5.5 wherein the first part and the second part are admixed prior to infusion into a patient.

Claim 9 (original): The two part peritoneal dialysis solution of Claim 8 wherein the pH of the first part ranges from about 2.8 to about 3.8.

Claim 10 (original): The two part peritoneal dialysis solution of Claim 9 wherein the pH of the first part ranges from about 3.0 to about 3.5.

Claim 11 (original): The two part peritoneal dialysis solution of Claim 8 wherein the acidic concentrate further includes calcium chloride and magnesium chloride.

Claim 12 (previously presented): The two part peritoneal dialysis solution of Claim 8 wherein the lactate-based buffer concentrate has a pH that ranges from about 5.0 to less than 5.5.

Claim 13 (original): The two part peritoneal dialysis solution of Claim 8 wherein the acidic concentrate includes about 30.0 g/L to about 85.0 g/L of dextrose, calcium chloride dihydrate, and magnesium chloride hexahydrate.

Claim 14 (original): The two part peritoneal dialysis solution of Claim 13 wherein the acidic concentrate includes about 7.0 mEq/L of calcium.

Claim 15 (original): The two part peritoneal dialysis solution of Claim 13 wherein the acidic concentrate includes about 5.0 mEq/L of calcium.

Claim 16 (original): The two part peritoneal dialysis solution of Claim 8 wherein the lactate-based buffer concentrate includes sodium chloride and sodium lactate.

Claim 17 (previously presented): A two part peritoneal dialysis solution comprising:

a first part housed in a first structure, the first part including an acidic dextrose concentrate; and

a second part housed in a second structure, the second part including an acidic buffer concentrate wherein the first part and the second part are separately sterilized and admixed to form a ready-to-use peritoneal dialysis solution, and wherein the second part has a pH that is less than 5.5.

Claim 18 (original): The two part peritoneal dialysis solution of Claim 17 wherein the first part and the second part are stored in a multi-chamber container including the first structure and the second structure adaptedly coupled such that the first part and the second part are capable of mixing to form the mixed solution prior to infusion into the patient.

Claim 19 (original): The two part peritoneal dialysis solution of Claim 17 wherein the first structure and the second structure each include a solution bag capable of being coupled to an admix device allowing mixing of the first part and the second part to form the mixed solution.

Claim 20 (original): The two part peritoneal dialysis solution of Claim 17 wherein the ready-to-use peritoneal dialysis solution includes about 1.5% to about 4.25% of dextrose.

Claim 21 (original): The two part peritoneal dialysis solution of Claim 20 wherein the ready-to-use peritoneal dialysis solution further includes sodium, calcium, chloride, magnesium and lactate.

Claim 22 (original): The two part peritoneal dialysis solution of Claim 17 wherein the acidic dextrose concentrate includes dextrose, calcium chloride and magnesium chloride at a pH ranging from about 2.8 to about 3.8.

Claim 23 (canceled)

Claim 24 (previously presented): A method of producing a dialysis solution, the method comprising the steps of:

formulating an acidic concentrate and a buffer concentrate having a pH of less than 5.5 wherein the acidic concentrate at least includes dextrose;

separately sterilizing the acidic concentrate and the buffer concentrate; and

mixing the acidic concentrate and the buffer concentrate.

Claim 25 (original): The method of Claim 24 wherein the acidic concentrate and the buffer concentrate are each housed in a respective chamber of a multi-chambered container adaptedly coupled such that the acidic concentrate and the lactate-based buffer concentrate can be mixed within the multi-chambered container.

Claim 26 (original): The method of Claim 24 wherein the acidic concentrate and the buffer concentrate are each housed in a respective solution bag each capable of being coupled to an admix device allowing mixing of the acidic concentrate and the lactate-based buffer concentrate.

Claim 27 (original): The method of Claim 24 wherein the acidic concentrate has a pH ranging from about 2.8 to about 3.8.

Claim 28 (original): The method of Claim 24 wherein the acidic concentrate further includes calcium chloride and magnesium chloride.

Claim 29 (previously presented): The method of Claim 24 wherein the buffer concentrate includes a lactate-based concentrate at a pH that ranges from about 5.0 to less than 5.5.

Claim 30 (previously presented): A method of modifying a standard dialysis solution comprising the steps of:

formulating two or more solution parts of the standard dialysis solution wherein the solution parts at least include a dextrose concentrate and a buffer concentrate;

separately sterilizing the dextrose concentrate and the buffer concentrate at a pH of less than 5.5; and

mixing the dextrose concentrate and the buffer concentrate to produce a modified standard dialysis solution.

Claim 31 (original): The method of Claim 30 wherein the modified standard dialysis solution includes fewer glucose degradation products than the standard dialysis solution.

Claim 32 (original): The method of Claim 31 wherein the glucose degradation products are selected from the group consisting of 5-hydroxymethyl furfural, 3-deoxyglucasone, glyoxal, methylglyoxal, acetaldehyde and combinations thereof.

Claim 33 (original): The method of Claim 30 wherein the modified standard dialysis solution includes a solution composition that is substantially the same as the standard dialysis solution except for the glucose degradation products.

Claim 34 (original): The method of Claim 30 wherein the modified standard dialysis solution includes about 1.5% to about 4.25% of dextrose.

Claim 35 (original): The method of Claim 30 wherein the modified standard dialysis solution further includes sodium, calcium, magnesium, chloride, and lactate.

Claim 36 (original): The method of Claim 30 wherein the dextrose concentrate is sterilized at a pH that ranges from about 2.8 to about 3.8.

Claim 37 (original): The method of Claim 30 wherein the buffer concentrate includes a lactate-based concentrate.

Claim 38 (original): The method of Claim 37 wherein the lactate-based concentrate includes sodium lactate and sodium chloride.

Claim 39 (original): The method of Claim 30 wherein the dextrose concentrate includes dextrose, calcium chloride and magnesium chloride.

Claim 40 (previously presented): A method of providing dialysis to a patient comprising the steps of:

mixing an acidic dextrose concentrate and an acidic buffer solution to form a ready-to-use dialysis solution wherein the acidic dextrose concentrate and the acidic buffer concentrate are separately sterilized prior to mixing and wherein the acidic buffer concentrate has a pH that is less than 5.5; and

using the ready-to-use dialysis solution during dialysis.

Claim 41 (original): The method of Claim 40 wherein the ready-to-use dialysis solution is used as a dialysate.

Claim 42 (original): The method of Claim 40 wherein the ready-to-use dialysis solution is infused into the patient during peritoneal dialysis.

Claim 43 (original): The method of Claim 40 wherein the acidic dextrose concentrate includes dextrose, calcium chloride, and magnesium chloride.

Claim 44 (canceled)

Claim 45 (original): The method of Claim 40 wherein the acidic solution has a pH ranging from about 2.8 to about 3.8.